BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

In the Matter of Advanced Television Systems and Their Impact upon the Existing Television Broadcast Service	)))	MB Docket No. 87-268

FURTHER PETITION OF CBS CORPORATION FOR RECONSIDERATION OF SEVENTH REPORT AND ORDER

CBS Corporation ("CBS"), the ultimate owner of television stations KSTW (TV), Tacoma, Washington, and WTVX (TV), Fort Pierce, Florida[1] (collectively, the "Stations"), respectfully files this *Further Petition for Reconsideration*[2] to request that the directional antenna patterns presently used by the Stations to broadcast on their NTSC frequencies – which have been allotted to Stations as their permanent post-transition channels -- be substituted for those now specified in Appendix B of the *Seventh Report and Order*.[3] In both instances, the antenna patterns assigned to the Stations would require significant reductions in power – and losses in population served – for the Stations' signals to remain within their allotted contours. There is no reason to require such power reductions because, as will appear below, the Stations' NTSC antenna patterns can be used without causing prohibited interference to any other station.

---

1 An application is presently pending for consent to assign the license for WTVX to WPB TV Licensee Corp., an affiliate of Cerberus Capital Management, L.P.

2 CBS has previously filed a reconsideration petition asking for changes in the technical facilities allotted to WBBM-TV, Chicago, and KCBS-TV, Los Angeles.

3 *Seventh Report and Order and Eighth Further Notice of Proposed Rulemaking,* MB Docket No. 87-268, FCC 07-138, *In the Matter of Advanced Television Systems and their Impact Upon the Existing Television Broadcast Service*, 2007 FCC LEXIS 5822 (released August 6, 2007) ("*Report and Order*").

The particulars concerning both Stations – and an additional request for a one second change in the latitude and longitude of KSTW's coordinates – are discussed below.

1. KSTW Antenna Pattern

KSTW is presently analog Channel 11 and digital Channel 36. The facilities employ a shared "combo" antenna system, which provides a "peanut" shaped directional pattern for both frequencies tailored to the geography and population centers of the market area. Due to the peculiar requirements of implementing the desired pattern for VHF and UHF stations with a shared antenna, the specific patterns have some variations and are not identical.

In attempting to "carry over" the service contour of KSTW's transitional digital operation on Channel 36 to its permanent digital assignment on Channel 11, Appendix B specifies a hypothetical directional pattern for KSTW corresponding generally to the pattern associated with the digital Channel 36 operation. However, due to the impact of non-uniform terrain and differences in the VHF and UHF propagation curves, implementing the specified antenna pattern on Channel 11 using KSTW's existing "combo" antenna would require a 6.22 dB power reduction (from the 12.6 kW assigned in Appendix B to 3 kW) in order to avoid exceeding the allotment parameters along any azimuth. This would result in a post-transition service population loss of nearly two percent, from 3,560,741 persons (as listed in Appendix B) to 3,492,149 persons. See Engineering Statement of Joseph M. Davis, attached as Exhibit A, at pages 1-2 (hereafter "Engineering Statement").

This loss of service population is unnecessary. It can be avoided by substituting the actual antenna pattern licensed for KSTW's analog operation on Channel 11 for the

antenna pattern specified in Appendix B. This would allow KSTW to convert its digital operation to Channel 11 without a power reduction, at the allotted 12.6 kW ERP. Further, analysis in accordance with OET Bulletin 69 establishes that the change in antenna patterns would not result in interference to any other station in excess of 0.1 percent. Nor will the antenna pattern substitution extend the Channel 11 digital service contour beyond the Grade B contour of the reference 1997 KSTW analog facility. Engineering Statement at page 2, Figure 2, and Table 2.

We respectfully submit that in these circumstances making the requested change of antenna patterns in Appendix B would manifestly serve the public interest.

2. WTVX Antenna Pattern

Similarly, Appendix B "carries over" the directional antenna pattern employed by WTVX's transitional digital operation to its permanent digital assignment on its NTSC frequency. In this case as well, the result is an unnecessary loss of service to the public.

Currently, WTVX's analog and digital operations on Channels 34 and Channel 50, respectively, employ separate directional antenna systems located on the same tower structure. Both antennas provide a "peanut" shaped directional pattern tailored to the geography and population centers of the market area. As with KSTW, those patterns are similarly oriented but are not identical.

As noted above, WTVX's post-transition digital operation will be on its current analog frequency, Channel 34. That facility will employ the same antenna that is presently used for WTVX's licensed analog Channel 34 operation. However, the parameters listed for WTVX in Appendix B, which assign the station an ERP of 522 kW, also mandate use of Channel 50's directional antenna pattern.

As is true of KSTW, implementation of the Appendix B antenna pattern with the actual licensed WTVX Channel 34 directional antenna would require that ERP be reduced by 2.41 dB to 300 kW in order to avoid exceeding the allotment parameters along any azimuth. And once again, a significant loss in service to the public would result. Thus, at the power level required to operate with the Channel 50 antenna pattern, the WTVX signal would reach a post-transition service population of 1,894,621 persons, only 88.3 percent of the service population listed for WTVX in Appendix B (2,144,512 persons). Engineering Statement at 3.

By contrast, using the actual antenna pattern licensed for WTVX's analog facility on Channel 34 would allow the station to operate digitally on that channel without reducing its allotted ERP of 522 kW, thus providing service to the entire population specified in Appendix B. Since analysis using the methodology prescribed in OET Bulletin 69 shows that such operation would not cause interference in excess of 0.1 percent to any other station, the public interest would plainly be served by substituting the licensed WTVX antenna pattern for the one now specified in Appendix B.

3. Adjustment in KSTW Coordinates

The coordinates listed for KSTW in Appendix B vary by one second in latitude and longitude from the associated Antenna Structure Registration ("ASR") data. *See* ASR Number 1033248. CBS accordingly requests that the Appendix B coordinates for KSTW be corrected to conform to those in the ASR data. In this connection, we note that, in the case of licensed facilities, a three-second coordinate correction can generally be accomplished by filing an application to modify a license on FCC Form 302, without the necessity of obtaining a construction permit.

CONCLUSION

For the reasons stated above, CBS respectfully requests the following changes in parameters:

Call	Location	Facility ID	Proposed Change
KSTW (TV)	Tacoma, WA	23428	Change Antenna ID to 68208 Coordinate Correction (see below)
WTVX (TV)	Fort Pierce, FL	35575	Change Antenna ID to 69808

The coordinate change requested for KSTW is as follows:

KSTW

NAD-27 Coordinates	Appendix B	Corrected to: ASR #1048806
N — Latitude	47° 36' 55"	47° 36' **56**"
W- Longitude	122° 18' 28"	122° 18' **29"**

Respectfully submitted,

CBS CORPORATION

By: _____
Howard F. Jaeckel
Its Attorney

51 West 52nd Street
New York, New York l0019
October 26, 2007

EXHIBIT A

Engineering Statement

prepared for

CBS Corporation

This engineering statement has been prepared on behalf of *CBS Corporation ("CBS")*, in support of a *Petition for Reconsideration* being filed in the *Seventh Report and Order ("SR&O")* concerning final digital television station channel parameters, Media Bureau Docket 87-268.[1] The subject docket sets forth a new digital television ("DTV") allotment table for the post-transition period. Appendix B of the *SR&O* provides channel and other technical parameters for each eligible television station. *CBS* requests herein that alternative technical parameters be employed for two of its stations.

CBS is requesting changes to the following stations:

Call	Location	Facility ID	Proposed Change
KSTW(TV)	Tacoma, WA	23428	Change Antenna ID to 68208 Coordinate Correction
WTVX(TV)	Fort Pierce, FL	35575	Change Antenna ID to 69808

Antenna Pattern Change - KSTW

KSTW is presently analog Channel 11 (BLCT-20050217AAH) and digital Channel 36 (BLCDT-20050509ABV). These facilities employ a shared "combo" antenna system, Dielectric model TUV-24GTH/8HV-R 4BP250/P220. This antenna is top-mounted and provides a "peanut" shaped directional pattern for Channel 11 and Channel 36 to complement the geography and population centers of the market area. Due to the differences in implementing the desired pattern for VHF and UHF stations with a shared antenna, the specific patterns have some variations and are not identical. The *SR&O* Appendix B data includes a specific hypothetical directional pattern for KSTW which corresponds generally to the pattern associated with the digital Channel 36 operation,

[1] *Advanced Television Systems and Their Impact upon the Existing Television Broadcast Service*, MB Docket No. 87-268, FCC 07-138, released August 6, 2007.

but the pattern has become distorted with the FCC's "carry over" procedure to the final channel due to the impact of non-uniform terrain and differences in the VHF and UHF propagation curves.

KSTW's post transition digital operation will move to its current analog Channel 11, and *CBS* intends to continue to employ the shared "combo" antenna for digital operations on Channel 11. The *SR&O* Appendix B data for KSTW specifies 12.6 kW with the hypothetical directional pattern, which has variations from that provided by the shared antenna on Channel 11. Implementation of the Appendix B hypothetical antenna pattern with the actual, licensed KSTW Channel 11 directional antenna would require that the ERP be reduced by 6.22 dB to 3 kW in order to avoid exceeding the allotment parameters along any azimuth. This power reduction would result in a post-transition service population for KSTW of 3,492,149 persons, which is 98.1 percent of KSTW's population listed in Appendix B (3,560,741 persons).

CBS is requesting that the actual antenna pattern licensed for the KSTW analog Channel 11 be substituted for the Appendix B antenna pattern. This would allow KSTW to convert its digital operation to Channel 11 without a power reduction, at the allotted 12.6 kW ERP. **Table 1** supplies the relative field values for the present Appendix B pattern (FCC Antenna ID 74526) along with the proposed pattern corresponding to the analog KSTW operation (Antenna ID 68208). Directional pattern plots are depicted in **Figure 1.** OET Bulletin 69[2] analysis results are provided in **Table 2** which shows that the proposed change will not cause interference to any other station in excess of 0.1 percent.[3] **Figure 2** demonstrates that the antenna pattern substitution will not extend the digital Channel 11 service contour beyond the Grade B contour of the reference 1997 KSTW analog facility (BLCT-19810921KG).

---

[2] FCC Office of Engineering and Technology Bulletin number 69, *Longley-Rice Methodology for Evaluating TV Coverage and Interference*, February 6, 2004 ("OET-69"). The implementation of OET-69 for this study followed the guidelines of OET-69 as specified therein. A standard cell size of 2 km was employed with 2000 Census data. Comparisons of various results of this computer program (run on a Sun Sparc processor) to the Commission's implementation of OET-69 show excellent correlation.

[3] The interference analysis provided in **Table 2** for KSTW also considers the coordinate correction discussed in a subsequent section.

Antenna Pattern Change - WTVX

Similarly, *CBS* station WTVX is presently analog Channel 34 (BMLCT-20040930AKO) and digital Channel 50 (BLCDT-20021030AAN). These facilities employ separate directional antenna systems located on the same tower structure. Both antennas provide a "peanut" shaped directional pattern to complement the geography and population centers of the market area. The patterns are similarly oriented but there are some variations. The *SR&O* Appendix B directional pattern for WTVX corresponds to the current digital Channel 50 operation.

WTVX's post transition digital operation will move to its current analog Channel 34, and *CBS* intends to employ the same antenna as the licensed analog Channel 34. The *SR&O* Appendix B data for WTVX specifies 522 kW with the Channel 50 directional pattern, which has variations from the licensed Channel 34 antenna pattern. Implementation of the Appendix B antenna pattern with the actual, licensed WTVX Channel 34 directional antenna would require that the ERP be reduced by 2.41 dB to 300 kW in order to avoid exceeding the allotment parameters along any azimuth. Operation at this power level would achieve a post-transition service population of 1,894,621 persons, which is 88.3 percent of the WTVX Appendix B service population (2,144,512 persons).

CBS is requesting that the actual antenna pattern licensed for the WTVX analog Channel 34 be substituted for the Appendix B antenna pattern. This would allow WTVX to convert its digital operation to Channel 34 without a power reduction, at the allotted 522 kW ERP[4]. **Table 3** supplies the relative field values for the present Appendix B pattern (FCC Antenna ID 75041) along with the proposed pattern corresponding to the analog WTVX operation (Antenna ID 69808). Directional pattern plots are depicted in **Figure 3.** OET Bulletin 69[5] analysis results are provided in **Table 4**

[4] The analog Channel 34 antenna is top-mounted, 17 meters above the Appendix B antenna height corresponding to the current digital Channel 50 antenna. CBS will specify the top-mount antenna height with a commensurate reduction in ERP as needed at the Construction Permit application stage to implement digital operation on Channel 34.

[5] FCC Office of Engineering and Technology Bulletin number 69, *Longley-Rice Methodology for Evaluating TV Coverage and Interference*, February 6, 2004 ("OET-69"). The implementation of OET-69 for this study followed the guidelines of OET-69 as specified therein. A standard cell size of 2 km was employed with 2000 Census data. Comparisons of various results of this computer program (run on a Sun Sparc processor) to the Commission's implementation of OET-69 show excellent correlation.

which shows that the proposed change will not cause interference to any other station in excess of 0.1 percent.[6]

Coordinate Correction - KSTW

A number of geographic coordinate adjustments were made in the *SR&O* (¶35) in cases to correspond to the associated Antenna Structure Registration ("ASR") data where the change was three seconds or less. For licensed facilities, a three-second coordinate correction can generally be accomplished by filing Form 302 to modify a license, without the need for a Construction Permit. The Appendix B coordinates for *CBS* station KSTW vary by one second in latitude and longitude from the associated ASR (number 1033248). *CBS* requests that the Appendix B coordinates for KSTW be corrected as shown in the following.

KSTW NAD-27 Coordinates	Appendix B	Corrected to: ASR #1048806
N – Latitude	47° 36' 55"	47° 36' **56"**
W- Longitude	122° 18' 28"	122° 18' **29"**

General

It is acknowledged that in seeking the modified parameters requested herein for both allotments, *CBS* will accept interference from any other digital allotment already approved. The service and interference statistics for the present and proposed parameters are summarized on each interference summary table.

The engineering analysis was conducted using the same methodology as described in the *Second DTV Periodic Review Order*[7] that the Commission's staff employed to identify conflicts

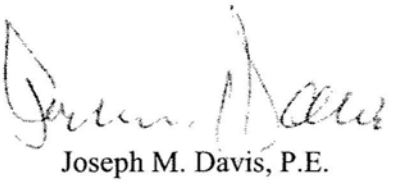
[6]Interference caused to WUSF-TV would be 0.148 percent, which complies with the rounding tolerance associated with the 0.1 percent interference limit. Additionally, in the first election round WUSF-TV consented to receive 0.2 percent interference from WTVX's election, and the proposed 0.148 percent interference represents a reduction from the current 0.171 percent level of interference caused by the WTVX Appendix B facility.

[7]*Second Periodic Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television,* MB Docket 03-15, FCC 04-192, Released September 7,2004.

during the three election rounds, as described in the following text from the *Further Notice of Proposed Rulemaking* underlying the *SR&O* (¶ 21):

> "New interference to post-transition DTV operations was defined as interference beyond that caused by existing analog and DTV operations, as set forth in the certification database information. … . In performing conflict analyses, the staff applied the standard that an interference conflict exists when it was predicted that more than 0.1 percent new interference would be caused to another station."

The undersigned hereby certifies that the foregoing statement was prepared by him or under his direction, and that it is true and correct to the best of his knowledge and belief.



Joseph M. Davis, P.E.
October 25, 2007

Chesapeake RF Consultants, LLC
11993 Kahns Road
Manassas, VA 20112
703-650-9600

List of Attachments

Table 1	KSTW(TV) Antenna Pattern Data
Figure 1	KSTW(TV) Directional Antenna Pattern Plots
Table 2	KSTW(TV) Interference Analysis Results Summary
Figure 2	KSTW(TV) Coverage Contour Comparison
Table 3	WTVX(TV) Antenna Pattern Data
Figure 3	WTVX(TV) Directional Antenna Pattern Plots
Table 4	WTVX(TV) Interference Analysis Results Summary

Table 1
KSTW Antenna Pattern
prepared for
CBS Corporation

Chesapeake RF Consultants, LLC
Radiofrequency Consulting Engineers
Digital Television and Radio

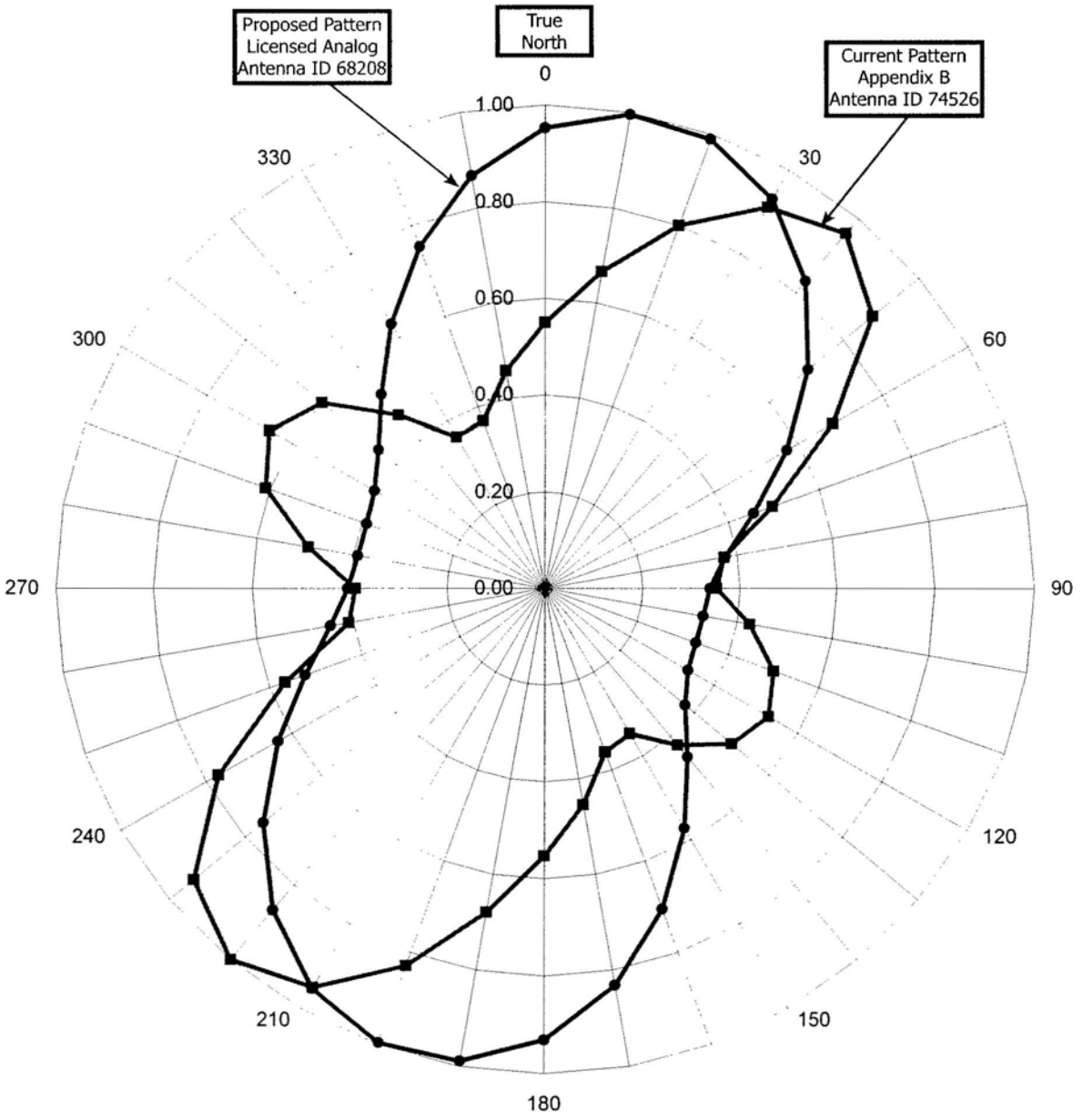
KSTW(TV) Ch. 11 Tacoma, WA
----------Relative Field----------

Azimuth (°T)	Current Pattern Appendix B Antenna ID 74526	Proposed Pattern Licensed Analog Antenna ID 68208
0	0.550	0.953
10	0.666	0.996
20	0.799	0.989
30	0.911	0.931
40	0.960	0.831
50	0.876	0.705
60	0.682	0.572
70	0.496	0.455
80	0.373	0.375
90	0.352	0.338
100	0.426	0.329
110	0.499	0.329
120	0.530	0.338
130	0.500	0.375
140	0.423	0.455
150	0.347	0.572
160	0.360	0.705
170	0.454	0.831
180	0.553	0.931
190	0.679	0.989
200	0.828	0.996
210	0.950	0.953
220	1.000	0.867
230	0.936	0.753
240	0.771	0.632
250	0.567	0.524
260	0.409	0.447
270	0.389	0.405
280	0.493	0.390
290	0.609	0.390
300	0.652	0.405
310	0.598	0.447
320	0.468	0.524
330	0.362	0.632
340	0.368	0.753
350	0.457	0.867
Additional Azimuths:		
14		1.000
196		1.000

Figure 1
Directional Antenna Pattern
KSTW(TV) Ch. 11 Tacoma, WA
Facility ID 23428

prepared for
CBS Corporation

October, 2007



Chesapeake RF Consultants, LLC
Radiofrequency Consulting Engineers
Digital Television and Radio

Chesapeake RF Consultants, LLC
Radiofrequency Consulting Engineers
Digital Television and Radio

Table 2

Interference Analysis Results Summary

prepared for

CBS Corporation

KSTW(TV) Tacoma, WA

Proposal: KSTW Digital Ch. 11 with Licensed Analog Directional Pattern and Coordinate Correction

Ch	Call Sign Service	State/City Facility ID	Power (kW) HAAT (m)	Latitude Longitude	Dist (km) Bear (°T)	Baseline Population (2000 Census)	New Interference Population	 Percent
11	KFFX-TV	OR PENDLETON 12729	22.001 472	45 44 51 118 2 11	387.2 120.9	316,687	0	0.00%
11	KOAB-TV	OR BEND 50588	160 226	44 4 41 121 19 57	400.4 168.8	157,893	0	0.00%

KSTW Service Area and Population Data	Present	Proposed
Service Area (sq. km)	20,515.60	21,023.60
Service Population (2000 census)	3,560,741	3,615,810
Interference	0.00%	0.00%

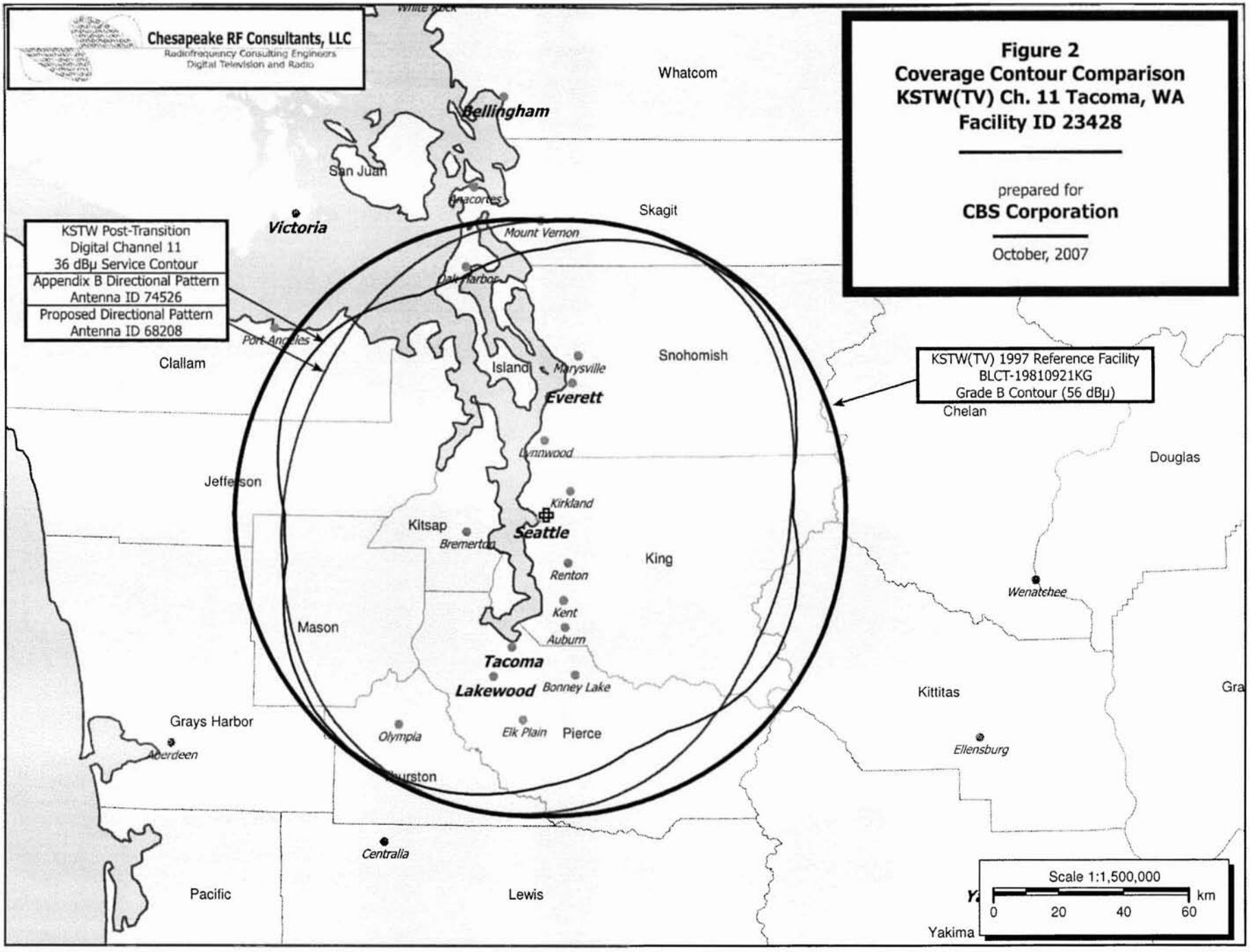

Chesapeake RF Consultants, LLC
Radiofrequency Consulting Engineers
Digital Television and Radio
Figure 2
Coverage Contour Comparison
KSTW(TV) Ch. 11 Tacoma, WA
Facility ID 23428
prepared for
CBS Corporation
October, 2007
KSTW Post-Transition
Digital Channel 11
36 dBµ Service Contour
Appendix B Directional Pattern
Antenna ID 74526
Proposed Directional Pattern
Antenna ID 68208
KSTW(TV) 1997 Reference Facility
BLCT-19810921KG
Grade B Contour (56 dBµ)
Whatcom
Bellingham
San Juan
Anacortes
Victoria
Skagit
Mount Vernon
Oak Harbor
Port Angeles
Clallam
Island
Marysville
Snohomish
Everett
Chelan
Douglas
Lynnwood
Jefferson
Kirkland
Kitsap
Seattle
Bremerton
King
Renton
Wenatchee
Kent
Mason
Auburn
Tacoma
Lakewood
Bonney Lake
Kittitas
Grays Harbor
Olympia
Elk Plain
Pierce
Aberdeen
Ellensburg
Centralia
Pacific
Lewis
Yakima
Scale 1:1,500,000
0
20
40
60
km

Table 3
WTVX Antenna Pattern
prepared for
CBS Corporation

Chesapeake RF Consultants, LLC
Radiofrequency Consulting Engineers
Digital Television and Radio

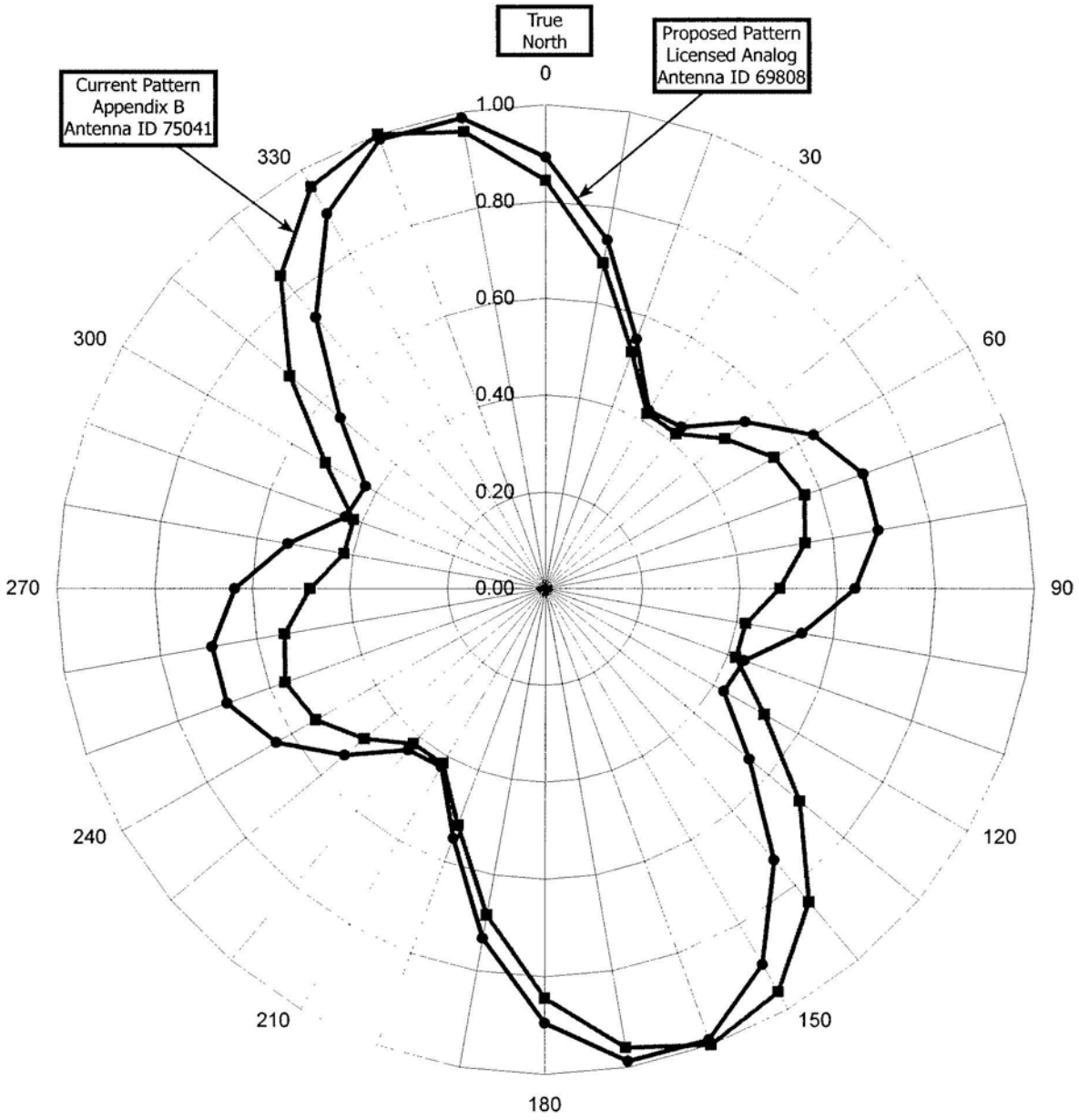
WTVX(TV) Ch. 34 Fort Pierce, FL
----------Relative Field----------

Azimuth (°T)	Current Pattern Appendix B Antenna ID 75041	Proposed Pattern Licensed Analog Antenna ID 69808
0	0.844	0.892
10	0.683	0.732
20	0.520	0.548
30	0.417	0.424
40	0.418	0.435
50	0.482	0.535
60	0.542	0.636
70	0.566	0.693
80	0.542	0.693
90	0.482	0.635
100	0.418	0.535
110	0.417	0.435
120	0.520	0.424
130	0.683	0.548
140	0.844	0.732
150	0.959	0.895
160	1.000	0.988
170	0.959	0.988
180	0.844	0.895
190	0.683	0.732
200	0.520	0.548
210	0.417	0.424
220	0.418	0.435
230	0.482	0.535
240	0.542	0.636
250	0.566	0.693
260	0.542	0.693
270	0.482	0.636
280	0.418	0.535
290	0.417	0.435
300	0.520	0.424
310	0.683	0.548
320	0.844	0.732
330	0.959	0.895
340	1.000	0.988
350	0.959	0.988
Additional Azimuths:		
165		1.000
345		1.000

Figure 3
Directional Antenna Pattern
WTVX(TV) Ch. 34 Fort Pierce, FL
Facility ID 35575

prepared for
CBS Corporation

October, 2007



Chesapeake RF Consultants, LLC
Radiofrequency Consulting Engineers
Digital Television and Radio

Chesapeake RF Consultants, LLC
Radiofrequency Consulting Engineers
Digital Television and Radio

Table 4

Interference Analysis Results Summary

prepared for

CBS Corporation

WTVX(TV) Fort Pierce, FL

Proposal: WTVX Digital Ch. 34 with Licensed Analog Directional Pattern

Ch	Call Sign Service	State/City Facility ID	Power (kW) HAAT (m)	Latitude Longitude	Dist (km) Bear (°T)	Baseline Population (2000 Census)	New Interference Population	Percent
33	WRXY-TV	FL TICE 71580	1000 429	26 47 8 81 47 41	144.5 255.3	1,275,319	0	0.00%
33	WCEU	FL NEW SMYRNA BEACH 12171	308 491	28 36 35 81 3 35	177.6 338.4	2,677,199	0	0.00%
34	WUSF-TV	FL TAMPA 69338	475 453	27 50 52 82 15 48	202.0 294.0	3,943,602	5849	0.148%
34	WCWJ	FL JACKSONVILLE 29712	1000 283	30 16 36 81 33 47	368.0 342.2	1,308,700	0	0.00%
35	WPXM	FL MIAMI 48608	241.67 282	25 59 9 80 11 37	127.4 171.2	4,564,971	0	0.00%
35	WFTX	FL CAPE CORAL 70649	930 404	26 47 42 81 48 5	144.9 255.8	1,378,880	0	0.00%

Existing Situation: WUSF accepted 0.2 percent interference from WTVX in the First Election Round

Interference Results for WTVX Digital Ch. 34 with Current Appendix B Directional Pattern

34	WUSF-TV	FL TAMPA 69338	475 453	27 50 52 82 15 48	202.0 294.0	3,943,602	6746	0.171%

WTVX Service Area and Population Data	Present	Proposed
Service Area (sq. km)	28,297.80	28,829.20
Service Population (2000 census)	2,144,512	2,177,210
Interference	0.00%	0.00%